

## **ABSTRACT**

A system and a method of locating a co-operative transceiver in an indoor location by setting up multiple transmitting beacons outside of a building in which the transceiver is located. Information at the transceiver, such as time-of-arrival (TOA) or time-difference-of-arrival (TDOA) of the first-to-arrive signals originating from the external beacons, is relayed back to a processing centre. The angle-of-transmission (AOT) is then determined for the first-to-arrive signals, the only ones with a potential for line-of-sight signals, as well as any arriving reflected signals. Synthetic Doppler, by revolving the transmitting antenna, is used to distinguish between a line-of-sight received signal in order to accurately determine the location of the transceiver.